

## Lesson Plan

Name of the Faculty : Ms. Nidhi  
 Discipline : ECE  
 Semester : 4<sup>th</sup>  
 Subject : Mathematics - III (BSE-MATH-202G)  
 Lesson Plan Duration : (from 4<sup>th</sup> Jan., 2020 to April, 2020)

Week	Theory	
	Lecture Day	Topic (including assignment/test)
1 <sup>st</sup> (04/01/20) To (11/01/20)	1 <sup>st</sup>	<b>Partial Differential Equations of first order:</b> Definition of Partial Differential Equations
	2 <sup>nd</sup>	First order linear partial differential equations
2 <sup>nd</sup> (12/01/20) To (19/01/20)	1 <sup>st</sup>	Solutions of first order linear partial differential equations
	2 <sup>nd</sup>	Charpit's method for solving first order non-linear partial differential equations  <b>Assignment - 1</b>
3 <sup>rd</sup> (20/01/20) To (27/01/20)	1 <sup>st</sup>	Partial Differential Equations of higher order: Second-order linear partial differential equations and their classification,
	2 <sup>nd</sup>	Solution to homogenous and non-homogenous linear partial differential equations of second order by complimentary function and particular integral method
4 <sup>th</sup> (28/01/20) To (03/02/20)	1 <sup>st</sup>	Initial and boundary conditions
	2 <sup>nd</sup>	D'Alembert's solution of the wave equation

5 <sup>th</sup> (04/02/20) To (11/02/20)	1 <sup>st</sup>	Heat diffusion and vibration problems,
	2 <sup>nd</sup>	Separation of variables method to simple problems in Cartesian coordinates
6 <sup>th</sup> (12/02/20) To (19/02/20)	1 <sup>st</sup>	One dimensional diffusion equation and its solution by separation of variables <b>Assignment - 2</b>
	2 <sup>nd</sup>	<b>Numerical Methods 1:</b> Solution of polynomial and transcendental equations – Bisection method
7 <sup>th</sup> (20/02/20 ) To (27/02/20)	1 <sup>st</sup>	Regula-Falsi method and
	2 <sup>nd</sup>	Finite differences
8 <sup>th</sup> (28/02/20) To (06/03/20)	1 <sup>st</sup>	Interpolation using Newton's forward and backward difference formulae
	2 <sup>nd</sup>	Numerical differentiation <b>Assignment - 3</b>
9 <sup>th</sup> (07/03/20) To (14/03/20)	1 <sup>st</sup>	Numerical integration
	2 <sup>nd</sup>	Trapezoidal rule
10 <sup>th</sup> (15/03/20) To (22/03/20)	1 <sup>st</sup>	Simpson's 1/3rd and 3/8 rules
	2 <sup>nd</sup>	Numerical Methods 2: Taylor's series
11 <sup>th</sup> (23/03/20) To (30/03/20)	1 <sup>st</sup>	Euler and modified Euler's methods
	2 <sup>nd</sup>	<b>Assignment - 4</b>